



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10

1200 Sixth Avenue  
Seattle, Washington 98101  
November 25, 2002

Reply To  
Attn Of: WCM-121

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Rob Hartman  
RCRA/CERCLA Manager  
FMC Corporation Pocatello Plant  
Highway 30 West  
P.O. Box 4111  
Pocatello, Idaho 83202

RE: Notice of Deficiency (NOD) Regarding Pond 8E, Pond 15S, and  
Phase IV Closure and Post-Closure Plans,  
FMC Pocatello Facility, EPA ID # 07092 9518

Dear Mr. Hartman:

The U.S. Environmental Protection Agency (EPA) received Closure and Post-Closure Plans for Pond 8E on September 15, 1998, and for Pond 15S and the Phase IV Ponds on August 14, 1998. The EPA provided the public with an opportunity to review and comment on the 8E Closure and Post-Closure Plan from November 20, 1998 through December 21, 1998. The public was provided with an opportunity to comment on the Closure and Post-Closure Plans for Pond 15S and the Phase IV Ponds from October 30, 1998 through November 30, 1998. EPA approved phase 1 of the closure for Pond 8E on January 5, 1999 and for Pond 15S and the Phase IV Ponds on December 11, 1998. The closure of these ponds is being conducted in two distinct phases. The first phase consisted of placement of sand and slag material, followed by several years of dewatering in order to stabilize the material sufficiently to support the final cap.

As phase 1 of these closures has been completed, this Notice addresses deficiencies found in the phase II plans for these ponds. Since all three plans are similar, these comments are relevant to each closure plan. Enclosed are deficiencies with these Plans which must be addressed before EPA will approve them. These modifications are necessary to ensure adequate controls are in place to minimize releases of hazardous waste and hazardous constituents, and to protect human health and the environment.

FILE COPY

FMC must modify the Closure and Post-Closure Plans and submit them to EPA for approval within 30 days of receipt of this letter in accordance with 40 C.F.R. § 265.112 (d)(4).

If you have any questions, please contact Linda Meyer of my staff at (206) 553-6636.

Sincerely,

A handwritten signature in dark ink, appearing to read "Richard Albright", written over the word "Sincerely,".

Richard Albright, Director  
Office of Waste and Chemicals Management

Enclosure

cc: Roger Turner, Shoshone-Bannock Tribes  
Jeanette Wolfley, Shoshone-Bannock Tribes  
Doug Tanner, IDEQ-Pocatello  
Mike Stambulis, IDEQ-Boise

**TECHNICAL REVIEW OF  
Pond 8 E, Phase IV Ponds and Pond 15S Closure Plans**

**GENERAL COMMENTS**

1. The Closure Plans do not comply with leak detection sump monitoring, liquid removal, and record-keeping requirements. 40 C.F.R. § 265.228 (b)(2) requires the owner/operator of a surface impoundment which is to be closed as a landfill to maintain and monitor the leak detection system in accordance with 40 C.F.R. § 265.226 (b). 40 C.F.R. § 265.226 (b)(2) requires the company to record the amount of liquids from the leak detection sump. The Closure and Post-closure Plans must be revised to include: 1) piping and system modifications for continued operation of the leak collection, detection, and removal system (LCDRS); 2) operating plans to monitor and remove liquids from the sumps and; 3) record keeping for the amount of liquid collected in the sumps.
2. The Closure Plans provide no analyses of the wastes remaining in the ponds. Although statements regarding relatively low elemental phosphorous concentrations in the non-hazardous slurry assurance project (NOSAP) slurry influent waste stream are included in Section 2.3.1 of the Pond 8E Closure Plan, supporting data are not included. The phosphorus concentrations in wastes placed in the pond before January 22, 1994, which were partially removed before NOSAP slurry was introduced into the impoundment, are not addressed. The phosphorous concentration in the settled solids is not estimated or addressed. While the assertions regarding the sediments being non-reactive and non-ignitable may be correct, absence of characterization data raises concern that these wastes may be similar to those in Pond 16S where gas emissions are occurring. The Closure Plans must be revised to include:
  - a) Results of analyses that have been conducted on the wastes in each pond, and a list of all hazardous constituents likely to be found.
  - b) An assessment of the representativeness of the above data.
  - c) An evaluation of the waste chemistry and a quantitative assessment of the potential for closure of ponds to result in generation, accumulation and ignition of phosphine gas.
  - d) An assessment of the presence and the potential for future generation of hydrogen cyanide gas and other toxic releases from the ponds.
3. Prevention of future production of phosphorus pentoxide and phosphine, according to the Plans, depends on maintaining saturation of the wastes. The Plans assume that all wastes in the pond will remain saturated with water, ignoring probable desaturation resulting from three different circumstances:



- Differential settlement of wastes during dewatering of the pond could desaturate the upper portion of the wastes around the edge of the pond.
- Operation of the LCDRS should be expected to desaturate the entire pond, if the primary liner leaks, and
- Decomposition of the PVC liners beneath the wastes

The Closure and Post-Closure Plans must be revised to address future oxidation of the wastes with higher phosphorus concentrations due to desaturation at the pond edge(s), possible desaturation of a reasonable maximum amount of waste and the resulting gas generation, and the adequacy of proposed gas collection and treatment equipment to accommodate these conditions.

## **SPECIFIC COMMENTS**

### **Section 2.3.3, Current Status**

4. The "current status" description does not provide any information on the status of the liner systems or the settlement process, which had been underway for at least 30 months (since completion of the temporary caps on October 5, 1999) when the Closure Plans was submitted (May 2002). Revise the Closure Plans to provide the date(s) leakage was detected in the LCDRS, volume of liquids removed to date, if any, and a summary of cover settlement monitoring data.

### **Section 7.1.4, Gas Generation**

5. The Closure Plans provide no information on the current status of the primary liner, but the design discussion assumes that the cap and bottom liner system will remain fully intact for the long term. Even if the primary liner is not currently leaking, it is reasonable to expect that minor breaks in the liner already exist or will develop during the post-closure period. If gases are generated within the wastes, they may migrate into the leak detection system (between the primary and secondary liners) and into the leak detection sump. This possible gas migration pathway is not addressed in the design basis discussion of gas generation or elsewhere in the plans. The Post-Closure Plans should be revised to include gas monitoring in the LCDRS sump during each inspection.

### **Section 8.9, Leak Detection System Operation**

6. The Closure Plans do not describe the pumps, controls and piping or other arrangements whereby liquids removed from the sump can be transferred to another treatment, storage or disposal unit. The Closure Plans do not mention inspection frequency, removal of liquids from the leak detection sump, or recording of the amounts removed, although the LCDRS "will be operated." The Closure Plans must be revised to include a description of the leak

detection sump pump and transport system that are, and will be, used to remove and transport liquids from the sump.

#### **Section 8.9, Leak Detection System Operation and Section 10, Post-Closure Plan,**

7. The Closure and Post-Closure Plans do not provide the pump operating level in the leak detection (LCDRS) sump. This elevation or depth is the level at which the pump must be operated to prevent backup of liquids in the impoundment drainage layer and to minimize head in the sump. The pump operating level is the benchmark against which liquid levels must be measured to comply with 40 CFR §265.226(b)(2). The Closure and Post-Closure Plans must be revised to define the pump operating level in each leak detection sump, and provide for measuring of liquid in the leak detection sump in relation to the pump operating level during every inspection of the sump.

#### **Section 8.9, Leak Detection System Operation, and Section 10, Post-Closure Plan**

8. The Closure and Post-Closure Plans do not include determination of the average daily flow rate into the leak detection sump, and comparison with the action leakage rate, as required by 40 CFR §265.222(c). The average daily flow rate must be calculated monthly during the post-closure period. The Closure Plans must be revised to provide for calculation of the average daily flow rate and comparison with the action leakage rate. The Post-Closure Plans must be revised to provide for monthly calculation of the average daily flow rate (in accordance with 40 CFR §265.226(b)). For those units which the action leakage rate has not been previously established, a rate must be proposed as required and defined in 40 CFR §265.222(b).

#### **Section 8.9, Leak Detection System Operation**

9. The Closure Plans do not address compliance with 40 CFR §265.228(b)(2). This regulation requires maintenance and monitoring of the leak detection system, as well as compliance with 40 C.F.R. §265.226(b), which requires weekly recording of the amount of liquids removed from the leak detection sump during the active life and closure period, and monthly after the final cover is installed. The Closure Plans must be revised to comply with 40 C.F.R §265.226(b)(2).

#### **Section 10.3, Inspection**

10. The Post-Closure Plans propose quarterly inspections of the leak detection system (and all other aspects of the closed impoundment) for five years, and semiannual inspections thereafter. The Plan does not provide for initial (after the final cover is installed) monthly inspections of the leak detection sump as required by 40 CFR §265.226(b). In addition, the leak detection system inspection description (page 10-5) does not include the requirement to remove pumpable liquids from the sump as required by 40 CFR §265.221(a), or recording the amounts of liquids removed as required by 40 CFR §265.226(b)(2). The

Inspection Record Form does not include space for recording amounts of liquids removed. The Post-Closure Plans Inspection Record Form and Activity Checklists must be revised to provide for initial monthly inspections of the leak detection sump, with potential reduced frequencies as provided in 40 CFR §265.226(b)(2). A separate record form for leak detection system inspections is recommended, with spaces for recording the amounts removed. The leak detection inspection description must be revised to include removal of pumpable liquids and recording of the amounts of liquids removed from the sump.

#### **Section 10.4**

11. Provide the basis for proposing to conduct settlement monitoring only annually after the first year.

#### **Section 11, Section 12**

12. Financial assurance information does not need to be included in the Closure Plans and should be removed.



bcc: Andy Boyd, ORC

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1. Article Addressed to:  Mr. Rob Hartman RCRA/CERCLA Manager FMC Corp. - Pocatello Plant Highway 30 West P.O. Box 4111 Pocatello, ID 83202		C. Signature <u>Rob Edwards</u> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, enter delivery address below:	
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or PO Box No. Highway 30 West / PO Box 4111  
City, State, ZIP+4 Pocatello, ID

PS Form 3800, January 2001 See Reverse for Instructions

FMC NOD Closure Plans

CONCURRENCES:

INITIALS 					POLICY FILE		RCRIS INFO SUBMITTED	
NAME 	Meyer	Burges			YES	<u>NO</u>	YES	<u>NO X</u>
DATE 	11-19-02	11/19			IF YES, BCC:		ATTACHED	

PEER REVIEW:

INITIALS #15			<i>CF</i>	<i>CB</i>		
NAME #15	Palumbo		Fisher	Brown	Orlean	Hedeen
DATE #15			11/19/02	11-19-02		